

Rath Packing Company
Sycamore Street between Elm and 18th Streets
Waterloo
Black Hawk County
Iowa

HAER No. IA-41

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

Historic American Engineering Record
National Park Service
Rocky Mountain Regional Office
Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD
THE RATH PACKING COMPANY

Location: Sycamore Street between Elm and 18th Streets, Waterloo, Iowa.

Quad: Waterloo South *HAEP
10V1A*

UTM: A 15/555870/4704300
B 15/555760/4704040
C 15/555500/4704280 *4 11E 1100*
D 15/555550/4704500

Dates of Construction: 1891-1961

Present Owners: City of Waterloo
620 Mulberry Street
Waterloo, Iowa

Crystal Distribution Services
Waterloo, Iowa

Quality Mat Company
Waterloo, Iowa

Present Use: Buildings in the primary study area (2, 27, 40, 44, 76, 89, 92, 93, 94, 113, 117, 125, 126, 147, 148, 149, 153, 162, 168, 177, 181, 190, 198) are abandoned and slated for demolition. Other buildings in the complex are privately owned and are used for manufacturing and storage.

Significance: Between 1891 and 1985, the Rath Packing Company grew from a small local business into the ninth largest meat packing company in the United States. By 1950, the Waterloo plant was the largest single-unit packing house in the world. The buildings in the complex were designed by Hans Peter Henschien of Chicago, the nation's foremost packinghouse architect during the first half of the twentieth century. The Rath plant exemplifies the vertical killing and processing technology that dominated the meat packing industry during this period.

Historians: John F. Lauber and Jeffrey A. Hess, February, 1993

INTRODUCTION

On February 4, 1891, a small meat packing house located on the banks of the Mississippi River in Dubuque, Iowa, burned to the ground. The plant had been established nearly thirty years before by a German immigrant named George C. Rath whose son, Edward (E. F.), joined the business in 1887. The firm of George Rath and Son was not a major force in Dubuque's economy. Lacking mechanical refrigeration, the Rathes could slaughter hogs only during the cold winter months. With the arrival of warm weather each spring, they were forced to bring activities at the packing house to an abrupt halt. Despite their seasonal operation, the Rathes soon carved out an enduring reputation by producing meat products that, by at least one early account, were "second to none in the country."¹ With his packing house reduced to a smoldering ruin, the aging George Rath elected to retire. But Edward decided to reorganize the business and rebuild the plant in a new location. This decision was to have an enormous impact on the future of a rising industrial town situated on the banks of the Cedar River, eighty-five miles to the west.

By the early part of 1891, officials of Waterloo, Iowa, had been trying to lure a packing company to their community for nearly three years. On May 31, 1888, the city's Board of Trade had placed a small notice in the Cincinnati Price Current and Commercial Review, offering "liberal inducements" to anyone who would establish a meat packing house

¹ This description of George Rath and Son's products appears in an unattributed newspaper article entitled "The Rath Packing Company," included in vertical files at the Grout Museum Library, Waterloo, IA. Other articles in the file date from the spring of 1891. Henceforth, the Grout Museum Library collection will be cited as GML, with appropriate locators. For background on the Rath family, see History of Black Hawk County, Iowa and Its People (Chicago: S. J. Clarke Publishing Company, 1915), 368. For information about Rath's operations in Dubuque, see H. H. McCarty, and C. W. Thompson, Meat Packing in Iowa (Iowa City: University of Iowa College of Commerce, 1933) 17-18.

in Waterloo. According to the advertisement, the city had all the ingredients necessary for the operation of a successful packing business: "Supply of hogs large; four railroads; facilities excellent."²

After the fire in Dubuque, a group of Waterloo businessmen urged E. F. Rath to submit a proposal to the Board of Trade. Rath responded by offering to form "a corporation capitalized at \$25,000," with part of the money to be provided by members of his own family, and part of it by "the citizens of Waterloo." This corporation would then "erect a pork packing plant to cost no less than \$15,000."³ In return, the Board of Trade was to provide land for the facility, arrange for a rail connection with the Illinois Central belt line, build a road to the site, and extend city water mains to ensure that the new plant would have an ample supply of water for processing and fire protection. In addition, the new corporation was to be exempted from city and county taxes for a period of five years.

The Board of Trade quickly agreed to these conditions. An eight-acre site on the north bank of the Cedar River was donated for the project by the Improvement Syndicate--an association of east side entrepreneurs who were attempting to develop an industrial park in the area. On March 27, 1891, the Rath Packing Company was incorporated under the laws of Iowa, with a board of directors that included three members of the Rath family (George Rath, E. F. Rath and cousin John Rath, a banker and lumber dealer from the nearby town of

² The advertisement is quoted in McCarty, Meatpacking in Iowa, 41.

³ George Thorne, "History of the Rath Packing Company," TMs [photocopy], 1, GML. For additional information about the deal between E. F. Rath and the City of Waterloo, see "The Improvement Syndicate," an unattributed newspaper article included in GML vertical files.

Ackley) and two investors from Waterloo.⁴ The newly elected board immediately began making plans to build a packing plant.

During the spring of 1891, company officials traveled to Emmetsburg, Iowa and Chicago, where they examined "a number of the most successful packing houses for the purposes of learning all the latest improvements." Shortly thereafter, the board hired William R. Berger, a "packing house architect of Chicago, Illinois," to design a facility capable of processing two hundred hogs per day.⁵ Site preparation began in May, and construction proceeded through the summer months under the supervision of A. W. Haffa of Waterloo, who received \$3.50 per day for his efforts. By late fall the buildings had been completed, and on November 24, 1891, a dozen newly hired employees reported for work at the Rath Packing Company, slaughtering forty-nine hogs during the company's first day of operations.⁶

For the next 94 years, the Rath Packing Company was to be one of Waterloo's most important industries.

⁴ Prospectus of the Rath Packing Company (Waterloo, IA: The Company, 1937), in Rath Packing Company Collection, Reports, Symbol R, Box 1, File 2, Department of Special Collections, Iowa State University Libraries, Ames, IA. Hereafter, this general collection will be cited as RPC-ISU, with appropriate locator numbers.

⁵ This description of the company's reconnaissance mission appears in "The Rath Packing Company," an unattributed newspaper article in GML vertical files. See also: Rath Board of Directors' Minutes, 5 May 1891 in Rath Packing Company Collection, Box 38, Grout Museum Archives, Waterloo, IA. Hereafter this collection will be cited as GMA, with appropriate locators.

⁶ There is some uncertainty about the precise date of the Rath Packing Company's operational debut in Waterloo. In his 1925 company history, George Thorne notes only that "the plant was finished by the middle of November," and that "the first hogs were . . . killed at that time." A company chronology compiled by John Stevens in 1990 lists the startup date as December 1, 1891. (See: John Stevens, "The Rath Packing Company: Chronology" (TMs [photocopy], GMA, Box 1) In later years the company marked its anniversary on November 24.

THE EVOLUTION OF AN INDUSTRY

Centralization

By the time the Rath's arrived in Waterloo, the American meat industry had already been transformed by nearly a century of dramatic change.

In 1800, the United States was largely a rural republic, self-sufficient in most foodstuffs, including meat. The country's few urban enclaves along the eastern seaboard were easily provisioned by nearby farms. But as European immigration swelled the urban population during the early nineteenth century, the demand for fresh meat outstripped the local supply.⁷ For a time, frontier farmers in newly settled lands beyond the Appalachian Mountains were able to satisfy the young country's appetite for meat by driving both cattle and hogs from farms in the Ohio River valley to points further east for slaughter. As the distances between the farm and the slaughter house increased, however, this arrangement quickly became unsatisfactory. Cattle could be transported "on the hoof" with few adverse consequences. But, as H. H. McCarty observed, "the frontier hog was not adapted either in physique or in disposition to being driven long distances to market."⁸

Soon enterprising merchants began to establish small, centralized, commercial slaughterhouses in the newly settled areas. Farmers drove their hogs to these nearby

⁷ For information about the early days of the American meat packing industry, see Jimmy M. Skaggs, Prime Cut: Livestock Raising and Meatpacking in the United States, 1607-1983 (College Station, TX: Texas A & M Press, 1986), chapters 1-4. Other useful sources include: Rudolph Alexander Clemen, The American Livestock and Meat Industry (New York: The Ronald Press Company, 1923); Margaret Walsh, The Rise of the Midwestern Meat Packing Industry (Lexington, KY, University Press of Kentucky, 1982); and John George Glover and William Bouck Cornell, The Development of American Industries (New York: Prentice-Hall, Inc., 1932. For information about the development of the packing industry in Iowa, see H. H. McCarty, Meatpacking in Iowa, cited earlier.

⁸ McCarty, Meatpacking in Iowa, 10.

processing centers, where the animals were slaughtered and reduced to "primal cuts." The pork thus produced was preserved with salt, and packed in barrels for transport to markets further east. Consequently, the commercial processors soon became known as "meat packers."

The most important of these early packing centers was Cincinnati, where, according to packing industry historian Jimmy Skaggs, Elisha Mills had established a commercial packing house by 1818. Skaggs has explained some of the reasons for Cincinnati's rise to prominence:

Situated on a bend of the Ohio River, the community was ideally situated for the meat trade. The surrounding countryside on both sides of the river abounded with swine, and area farmers . . . preferred to dispose of them locally . . . rather than drive them eastward. . . . The river also provided . . . practical, inexpensive transport for their huge barrels of packed pork.⁹

By 1853, there were more than forty pork packing houses in Cincinnati. These plants could process upwards of 400,000 hogs for both domestic and foreign trade each year, so that the city became known around the world as "Porkopolis." But within a decade, the country's meat packing industry would shift its focus.

In the mid-nineteenth century, Americans began moving westward in droves as a network of transcontinental railroads opened vast portions of the nation's frontiers. Many of these new rail lines converged on the young Lake Michigan port city of Chicago. Skaggs notes that by 1848, "a dozen railroads radiated from Chicago, directly linking the city's half-

⁹ Skaggs, Prime Cut, 36.

dozen meatpacking plants with the livestock-rich middle west as well as the urban east."¹⁰

With these supply and transportation lines in place, Chicago was soon processing meat on a grand scale.

Chicago's growing livestock and meat trade created public problems as well as private fortunes. In the early 1860s, privately owned livestock pens stood in several parts of the city. Animals destined for slaughter were driven through the streets from these various storage sites to the packing houses, a practice which elicited great dissatisfaction from both packers and residents. This situation improved considerably on Christmas Day of 1865, with the opening of the new Union Stock Yards. Occupying 320 acres in the southwestern part of the city, the Stock Yards had connections to nine rail lines and a barge canal. Its pens provided space for 20,000 cattle, 75,000 hogs and 20,000 sheep, while its hotels, restaurants and commodity exchange provided ample accommodations for humans as well. Within a few years this immense "Packingtown" had become home to the operations of such industry giants as Philip D. Armour and Gustavus Swift.¹¹

During the last quarter of the century, Swift was to play an important role in helping Chicago packers solve another problem. In 1869, a Detroit meatpacker named George Hammond had devised an ice-cooled rail car that enabled him to ship dressed beef to wholesale meat merchants as far away as Boston. Hammond's invention was not perfect -- according to a government report, meat shipped in these cars "became discolored and spoiled

¹⁰ Skaggs, Prime Cut, 44-45.

¹¹ Harold W. Mayer and Richard C. Wade, Chicago: Growth of a Metropolis (Chicago: University of Chicago Press, 1969), 50.

easily when removed."¹² Nonetheless the new device raised the possibility that packers might someday be able to ship beef on the hook, rather than on the hoof, to markets all across the country. Recognizing the profit potential of this new shipping method, Gustavus Swift hired an engineer by the name of Andrew Chase to help him develop a refrigerated rail car that would not damage the beef. When the Swift-Chase car was patented in 1879, it immediately provided its inventor with a distinct advantage over the competition:

By slaughtering in Chicago, Swift avoided shipping the 60 percent of a steer that was either waste or inedible by-product. Because he could ship three dressed carcasses for what it cost to ship one live steer, he undercut eastern slaughterhouses by as much as seventy-five cents a hundredweight.¹³

With the help of the refrigerated rail car, Swift and Company soon became the nation's largest supplier of dressed beef. Other Chicago packers quickly adopted the new technology, expanding their product lines to include both pork and beef. By the last third of the nineteenth century, the Windy City's packing industry was thriving, and Chicago had surpassed Cincinnati to become "hog butcher for the world."

Meat packing, however, was not limited to large urban centers. By the time of the Civil War, packing houses had also begun to appear in a number of smaller cities throughout the Midwest. This was also true in Iowa, where "hog raising was so easy that nearly every farm produced an excess after the first year or two, and these market hogs provided the largest source of farm income for the early Iowa settlers."¹⁴

¹² Quoted in Clemen, American Livestock and Meat, 220.

¹³ Skaggs, Prime Cut, 94.

¹⁴ McCarty, Meatpacking in Iowa, 10.

The first packing houses in Iowa were established in Keokuk, Burlington, Muscatine, Davenport, and other settlements along the Mississippi River. In 1933, business historian H. H. McCarty explained their origins:

A certain similarity marks the beginning of all these early packinghouses. . . . All of them were small . . . and in nearly every instance they were begun as 'sidelines' auxiliary to some previously existing enterprise. Frequently that enterprise was the 'forwarding business.' Every frontier town had . . . firms engaged not only in retailing 'everything you want to buy,' but also in buying and forwarding to southern markets 'everything you have to sell.' They sold everything from whiskey . . . to curling irons, and they bought the wheat, potatoes, pork and whatever other farm products were offered for sale. Hogs came to them . . . either on the hoof . . . or as frozen carcasses. . . . Both hogs and pork presented a problem to the provision merchant. . . . The hogs must be slaughtered and dressed and all of the pork that could not be sold locally must be salted or cured to withstand storage and shipment. As a consequence the merchant became a pork packer.¹⁵

As meat packing became increasingly profitable, it also became a full-time occupation. And as railroads replaced rivers as the primary means of transportation after the Civil War, Iowa's meat packing industry began to move inland. By the end of the nineteenth century, the interior cities of Cedar Rapids, Ottumwa and Sioux City had all become major packing centers. Within a decade Waterloo would add its name to the list.

Technology

During the nineteenth century, meat processing changed from a localized seasonal activity practiced by a host of skilled independent butchers into a significant national industry conducted on a huge scale by a relatively small group of large packing companies. Like

¹⁵ McCarty, Meatpacking in Iowa, 11.

other early industrialists, packers soon began looking for ways to make their operations more efficient. But, as McCarty points out, the packers faced some unusual challenges:

Meat packing differs from other industries in that it is a dis-assembling rather than an assembling process. Most manufacturing consists of bringing together a number of small parts to form a larger and more complicated product; in a packing plant, on the contrary, the raw materials are the complicated elements and the factory process consists of cutting these carcasses into smaller and simpler pieces and preparing these pieces for market.¹⁶

Furthermore, once the packer's perishable raw materials have been dissassembled, they immediately begin to self-destruct. Initially packers solved this problem by slaughtering animals only during the winter months, taking advantage of natural refrigeration to keep carcasses from decomposing. During the 1850s a few packers began to cool storage rooms with blocks of ice harvested from nearby rivers and lakes. By the 1870s, this practice had become so widespread that ice houses were a standard feature of meat processing plants, transforming packing into a year-round endeavor.¹⁷

By the middle of the nineteenth century, inventors had also started to develop various forms of mechanical refrigeration. John Gorrie patented the first American artificial ice machine in 1851. Carl Linde introduced a compressed ammonia refrigeration machine in Germany in 1873, and the device was patented in the United States in 1880. That same year, W. B. Allbright installed a mechanical refrigeration plant in one of the Chicago packing houses, and within a short time, "every well-equipped slaughter house had its own

¹⁶ McCarty, Meatpacking in Iowa, 110.

¹⁷ For an overview of the development and application of refrigeration technology in the packing industry, see Clemen, American Meat and Livestock, 211-51.

chill and refrigerator rooms, in which the meat products could be kept wholesome for long periods of time."¹⁸

Mechanization of the disassembly line proved to be a more difficult task. In his 1948 study of the mechanization of American industries, Siegfried Giedion noted that "enterprising and inventive people tried to develop machines for almost every one of the [meat industry's] time-consuming operations."¹⁹ And there were some striking successes. By the late 1880s, for example, steam-powered hoisting machines and automatic hog-scraping devices were helping to speed up operations inside a number of the nation's largest packing houses. Eventually, however, packing house owners and engineers had to face what was quite literally a simple fact of life:

A complex organic substance with its contingencies, its changing, easily vulnerable structure, is something other than a piece of amorphous iron. This was true also of the dead animal. Despite many attempts, processing of its carcass could not be fully mechanized.²⁰

If meat packing could not be completely mechanized, it could be at least be organized. By 1830, commercial slaughter had already become a carefully-orchestrated event:

[Because] the work could be carried on only in the cool season, the load of an entire year descended on the slaughterhouses in late autumn. Masses of highly perishable products had to be processed with all possible haste. This led to a minute division of labor, step by step, manipulation by manipulation. . . . All

¹⁸ Clemen, American Livestock and Meat, 216.

¹⁹ Much of the information included in this section of the report was derived from the chapter entitled "Mechanization and Death: Meat," found in Siegfried Giedion, Mechanization Takes Command (New York: Oxford University Press, 1948), 209-47. The quotation used in this paragraph appears on page 232 of the book.

²⁰ Giedion, Mechanization, 232.

other considerations were subordinated to the question: How to secure an uninterrupted production line.²¹

By 1850, the buildings themselves were providing part of the answer.

Early Packinghouse Design

During the first half of the nineteenth century, meat packing was often little more than a lucrative seasonal sideline for merchants whose primary interests lay elsewhere. Consequently, processing activities often took place in buildings that had originally been designed for other purposes, with slaughtering and packing operations conducted in separate locations. According to historian Margaret Walsh, this meant that

little finance was needed to build an early meat-processing plant. As rivers were closed to navigation during the winter months, merchants had spare capacity in their warehouses, so they hastily and temporarily fitted them up with the simple tools of the trade, such as cutting instruments, tables, pickling vats, and lard kettles or tanks. If they had insufficient space to improvise hog pens and slaughter yards, or if nuisance ordinances prevented their presence within the city boundaries, packers could rent some land nearby and transport carcasses to their converted warehouses. . . .²²

Most of these rudimentary packinghouses were made of wood, which soon became impregnated with animal fat and lard, turning the buildings into firetraps. McCarty observes that as a result, "many fortunes were lost in the frequent fires which burned fiercely and spectacularly, utterly beyond the control of the scant fire-fighting organizations of frontier

²¹ Giedion, Mechanization, 216.

²² Walsh, Midwestern Meatpacking, 26.

days."²³

By 1850, however, killing and packing activities had been consolidated beneath one roof, and some packers began building "specialized plants, designed particularly for killing animals and for cutting and packing meats."²⁴ Walsh notes that Cincinnati had a number of these plants, ranging in size "from 150 feet by 50 feet to 360 feet by 160 feet." Despite variations in size, all of Cincinnati's specialized plants "were constructed of brick or stone, had fireproof roofs and walls separating the smokehouse and rendering rooms from other floors, and had extensive cellars paved with brick to retain cool temperatures for storing."²⁵

The Cincinnati plants also shared another important characteristic: each of these early packing operations was housed in a multiple-story building, and in each instance, "an inclined plane led to the top of the building. Up this path the pigs were driven, and slaughtered on the top story." According to Giedion, this allowed packers "to utilize the animal's own weight to transport it downwards from floor to floor by the force of gravity."²⁶ The multi-story building and the gravity-powered production line would continue to be the dominant features of American meat packing plants until well into the twentieth century.

GROWTH AND EXPANSION

²³ McCarty, Meatpacking in Iowa, 12.

²⁴ McCarty, Meatpacking in Iowa, 14.

²⁵ Walsh, Midwestern Meatpacking, 26-7.

²⁶ Quotations in this paragraph are taken from Giedion, Mechanization, 216.

The Rath Packing Company's first Waterloo plant was typical of the nation's early specialized packing houses. According to William Berger's original plans, the complex consisted of four free-standing structures, arranged along the Illinois Central railroad tracks on the north edge of the Cedar River, and linked together by a system of ramps and bridges.²⁷

Standing side by side at the east end of the complex were two simple, one-story hog sheds. These sheds were of pole construction, with gabled roofs and fence-like sides enclosed with horizontal wooden slats. A raised platform on the side nearest the Illinois Central tracks helped ease the task of unloading animals from incoming rail cars. Hogs were taken to slaughter through a narrow inclined chute that led from the hog sheds to the top floor of the nearby killing house.

The killing house was a utilitarian four-story structure, located near the center of the complex. It was rectangular in plan, measuring approximately 33 x 49 feet, and had bearing-brick parapet walls and a low-pitched roof fireproofed with asbestos. Interior floors were supported by a system of heavy timber posts and beams, and by a simple queen-post truss above the third level. On the east end of the building was a shed-roofed, one-and-a-half-story mechanical room measuring approximately 40 x 49 feet. Rising from the

²⁷ Descriptions of the buildings in the original complex are based on a number of sources, including four blueprints prepared by Wm. R. Berger of Chicago in 1891 and owned by the Waterloo Community Development Board, Waterloo, IA. See also: photographs of the Rath complex c. 1901, in the files of the Waterloo Courier; and Sanborn Fire Insurance Company maps of the site, dated 1892 and 1897, GML. The Waterloo Community Development Board has an extensive collection of drawings and blueprints of the buildings and equipment in the Rath complex. These drawings were indexed in 1992 by Jeffrey A. Hess and Deanne Zibell of Hess, Roise and Company, Minneapolis. See bibliography for a complete citation on the index. Hereafter, architectural drawings owned by the Board will be cited as WCDB, with appropriate descriptions of the documents.

mechanical room was a tall, tapered, brick smokestack. Lighting and ventilation depended on wood, double-hung windows set into narrow rectangular openings with segmentally-arched tops. Two small, gabled, rooftop monitors with louvered sides provided additional ventilation above the killing area.

Killing took place on the fourth floor. After leaving the inclined chute, each hog was shackled by the hind leg, then lifted by a steam-powered hoist to an inclined overhead rail. A worker situated at the upper end of the rail carefully slit the throat of each animal, then let it slide down the rail while the still-beating heart drained the carcass of blood. A deep gutter in the floor of the bleeding area directed the blood to a vat on the first level. At the far end of the rail, the carcass dropped into a large scalding tank on the third floor, where boiling water loosened the hair. After a few moments, the carcass was removed from the tank and placed on a high wooden bench flanked by two narrow platforms. Workers standing on these platforms used bell-shaped scrapers to remove the bristles by hand. After scraping, the hog was beheaded, eviscerated, and split in half with a large cleaver. At each stage of the process, fat, trim, and other usable by-products were retained, eventually making their way to the lower floors where an array of steam-heated rendering tanks, cooking vats and presses converted them into lard, fertilizer, and other salable commodities.²⁸

Once the carcass had been halved, it was placed on another overhead rail and pushed through a bridge into the adjacent packinghouse building for chilling. The packing building

²⁸ For a general discussion of early hog processing practices, see: "From Art to Science," National Provisioner 126:4 (26 January 1952), 233-52. The description of operations in the Rath plant is based on an examination of the equipment and layout shown on the original plans. The bell-shaped hand scraper is mentioned in Geoffrey Parsons, Jr., and Robert M. Yoder, Waterloo Packer: (Waterloo: The Company, 1941), n.p.

was four stories high and rectangular in plan, measuring 49 x 65 feet. It was essentially identical in construction to the killing building. Inside, the structure was divided into two distinct functional units. The windowless western half was used for chilling and cold storage, and had been insulated by lining its brick outer shell with hollow wooden walls made of two double layers of tongue-and-groove flooring. The building's rudimentary refrigeration system was powered by gravity. On the upper levels were slat-floored wooden cribs containing huge blocks of ice. As incoming air passed across the ice, it cooled and flowed downward through wooden ducts into the chilling room below, where carcasses hung from a system of closely spaced overhead rails. After chilling, carcasses were taken from the coolers into the large packing room on the east side of the building, where they were reduced to primal cuts, then packed in salt, smoked for bacon, or cured to make hams.

Completing the original complex was a double-unit, three-story ice house. This twin-gabled, hollow-walled, wood frame structure stood just to the west of the packinghouse and chilling building, and provided storage for 1360 tons of ice harvested from the Cedar River during the winter months.

During its first full year of operation in 1891, the Rath Packing Company slaughtered 13,006 hogs in this facility.²⁹ The year-end financial figures, however, were not quite so impressive, for during the same period, the company lost well over two thousand dollars.³⁰ As company president John W. Rath later recalled, "the first few years the business had

²⁹ "Fifty Years of Rath Progress," National Provisioner 105 (23 August 1941): 13.

³⁰ Thorne, "History of Rath," 4.

quite a struggle and for some little time it was not certain that Waterloo was to be a packing center." Despite this shaky start, officials were eager to expand: "The second year we were in business, being short of storage room we built an addition to the plant. . . . From that time . . . there has been a building program that has never ceased." In 1896, the company showed a profit of more than three thousand dollars, and it was to remain solidly in the black for the next several decades.³¹

By 1904, the Rath Packing Company employed a work force of forty men, and its plant had grown to include a new mechanical refrigeration plant, new engine and boiler rooms, an additional chilling room and a plant for manufacturing artificial ice.³² Within a few years, these facilities helped make Rath the fourth largest meat packer in Iowa. Still more expansion was in the immediate future, however, as World War I created an "enormous demand for meat . . . [that] greatly accelerated the company's growth."³³ In November 1916, the National Provisioner reported:

The Rath Packing Company, Waterloo, Iowa . . . will build a five-story combined warehouse and hog cooler and three ice houses to cost about \$125,000. The warehouse will be located on Elm Street and the Illinois Central Tracks, and will be 82 x 112 with a three-story brick dock, 20 x 82, on the end facing the tracks. The building will have a storage capacity of 6,000,000 pounds and the cooler a capacity of 3,000 hogs.³⁴

The plans for the new building were being prepared by a young architect from

³¹ John W. Rath, untitled history of Rath company, ca. 1925. TMs [photocopy], 2, GMA, Box 1.

³² Isaiah Van Metre, History of Black Hawk County, Iowa and Representative Citizens (Chicago: Biographical Publishing Company, 1904), 209.

³³ "Fifty Years of Rath Progress," National Provisioner 105 (23 August 1941): 14.

³⁴ "Trade Gleanings," National Provisioner 55 (4 November 1916): 20.

Chicago by the name of Hans Peter Henschien.

H. P. HENSCHIEN, INSPECTION, AND THE NEW AMERICAN PACKINGHOUSE

H. P. Henschien was born in Oslo, Norway in 1881, and received his technical education there. In 1902, he immigrated to the United States, settling in New York City, where he went to work as a packing plant architect for Swift and Company. In 1905, he was transferred to Swift's headquarters in Chicago.³⁵ A year later, Upton Sinclair published The Jungle, a fictional account of life in the "Packingtown" area of Chicago. A reform-minded physician named Albert Leffingwell described the book's immediate impact:

During the early part of the year 1906, the world was startled by revolting disclosures concerning the stockyards and great packing-houses of Chicago. By special investigators sent out by the President of the United States, it was shown that the methods of handling and preparing food products were not only uncleanly [sic], but dangerous to health; that some of these establishments were not kept even reasonably clean; that a traffic existed in questionable meats; that among the employees tuberculosis existed entirely out of proportion to their number, and that in short, the conditions there prevalent were a menace to the public health.³⁶

At the end of April 1906, Republican Senator Albert J. Beveridge of Indiana introduced a bill to Congress, calling for mandatory federal inspection of all meat destined for interstate or international commerce. The proposed law would require that animals be inspected both before and after slaughter, and that condemned carcasses be destroyed. It

³⁵ Despite Henschien's eventual prominence in the field of packinghouse design, very little is known about his background. The information included here is drawn from his obituary. See "H. P. Henschien Dead; Famed as Architect," Chicago Tribune, 13 February 1959.

³⁶ Albert Leffingwell, American Meat and Its Influence Upon the Public Health (New York: Theo. E. Schulte, 1910), 1.

would also extend inspection to processed meats, and it would require packers to maintain "sanitary plant conditions under rules to be laid down by the Secretary of Agriculture."³⁷ On June 30, 1906, Beveridge's bill was signed into law.

The Meat Inspection Act had a profound effect on the design of American packing houses. The government investigations of the packing industry had revealed a simple truth: "A slaughterhouse gets dirty with great rapidity; like a small boy, it requires constant cleaning."³⁸ To solve this problem, the new law established sanitary standards so stringent that, as H. H. McCarty points out,

the old packing plants simply could not be raised [to meet them]. The rough walls and plank floors of Civil War days could not be scrubbed to the high point of sanitation required by inspectors from the Bureau of Animal Industry. New plants were necessary.³⁹

It was not evident, however, what form the new plants should take. Some packers had made attempts to improve sanitary conditions inside their plants even before the passage of the Meat Inspection Act. Even though a number of conventions for sanitary construction were beginning to emerge, these measures had not been uniformly adopted throughout the industry. After the inspection law went into effect, the Bureau of Animal Industry began to issue official guidelines for packing house construction. Since these guidelines were often

³⁷ "Meat Packing Comes of Age," National Provisioner 126 (26 January 1952): 92. The provisions of the Meat Inspection Act are outlined in: United States Department of Agriculture, Twenty-third Annual Report of the Bureau of Animal Industry for the Year 1906 (Washington: Government Printing Office, 1908), 457-60. Meat destined for export had been subject to ante-mortem federal inspection since 1891.

³⁸ See A. D. Melvin, "The Meat Inspection Service," in: USDA, Twenty-Third Annual Report, 80.

³⁹ McCarty, Meatpacking in Iowa, 27.

vague and open to interpretation, they did little to alleviate the confusion.⁴⁰ There was clearly a need for someone to examine the problem of packing house design in light of the new federal regulations and make specific recommendations. Nine years after the passage of the Meat Inspection Act, H. P. Henschien did exactly that.

In 1909, Henschien departed from Swift and Company to join the firm of Chicago packinghouse designer D. I. Davis. In October 1914 he moved again, this time establishing an independent practice in the Old Colony Building on South Dearborn Street. The next year, he published a book entitled Packing House and Cold Storage Construction, which, according to its lengthy subtitle, was intended to serve as:

A general reference work on the planning, construction, and equipment of modern American meat packing plants with special reference to the requirements of the United States government and a complete treatise on the design of cold storage plants, including refrigeration, insulation and cost data. Fully illustrated.⁴¹

The book lived up to its name. In it Henschien covered virtually every aspect of packing house design. He discussed factors affecting plant location and layout. He provided

⁴⁰ The National Provisioner notes, for example, that the packing industry had begun to establish standards for sanitary construction several years before passage of the Meat Inspection Act:

The search for an impervious, clean and washable interior wall surface appears to have started around 1900. A National Provisioner article on the rebuilt Hammond plant at St. Joseph reported that walls to the height of five feet were of white enameled brick. Use of this material is mentioned elsewhere about the same time. Glazed tile was adopted for wall facing within a few years. See "From Art to Science," National Provisioner 126 (26 January 1952): 26.

The Inspection Act itself was much less specific, stipulating only that "where floors or other parts of a building . . . are so old or in such condition that they can not be readily made sanitary, they shall be removed and replaced by suitable materials or otherwise put in a condition acceptable to the inspector in charge." (USDA, Twenty-Third Annual Report, 365.)

⁴¹ Hans Peter Henschien, Packing House and Cold Storage Construction (Chicago: Nickerson & Collins Co., 1915), title page.

detailed descriptions of appropriate structural systems; plumbing, power and refrigeration systems; and materials, finishes and equipment for packing plants of all sizes. Like many of his predecessors, he advocated the use of the multi-story plant, which allowed "carcasses and all the by-products" to be "transferred by gravity, or by a minimum of labor, to their proper place of storage or manufacture."⁴² For more than 40 years, Packing House and Cold Storage Construction would remain the industry's best single source of information on packing house design.

In a 1952 interview with the National Provisioner, Henschien admitted that "naturally he would not put everything he knew in the book since its purpose was mainly to bring in business."⁴³ The publication apparently served this promotional purpose very well. H. Peter Henschien and his partners were eventually commissioned to design more than 300 packing plants, not only in the United States, but in Canada, South America and the Soviet Union as well. The Rath commission, secured in the fall of 1916, was among the earliest,

⁴² H. P. Henschien, Packing House and Cold Storage Construction, 14.

⁴³ "H. Peter Henschien--Plan Well Before Building," National Provisioner 126 (26 January 1952): 319. According to the records of Henschien, Johnson and Crombie of Chicago, H. P. Henschien established his independent practice in October 1914, and worked on his own until April 1916, when he joined forces with Robert J. McLaren. After McLaren's retirement in February 1929, the firm operated under the name "H. P. Henschien, Architect," until August 1937, when longtime associates W. H. Everds and Robert Crombie were made full partners. The firm then became known as "Henschien, Everds and Crombie, Architects and Engineers." During the 1940s, the staff was expanded to include Gordon Johnson and Robert Crombie's son, Robert, Jr., who both became principals after the deaths of the original partners. On 1 January 1983, the name of the firm was officially changed to Henschien, Johnson and Crombie. According to Robert Crombie, Jr., each of the three original partners had a clearly defined area of expertise. Henschien was the head designer and contact person, Crombie was chief draftsman and architect, and Everds was the engineer. (Robert Crombie, Jr., interviewed by John Lauber, Chicago, 7 December 1992.)

and it gave Henschien an excellent opportunity to showcase the principles of his new book.⁴⁴

When Rath's new cold-storage building (Building 9) was completed in 1917, it differed significantly from the company's earlier buildings.⁴⁵ For one thing, the new building contained very little wood. Its structural system depended entirely on fireproof reinforced concrete, with flat-slab floors supported on a grid of concrete columns with mushroom capitals. The floors sloped toward a proliferation of regularly spaced drains, and were surfaced with wear-resistant brick pavers, set in a mortar base above a waterproof membrane. Interior partition walls consisted of easily cleaned glazed tile and were arranged to fill the spaces between the columns. These relatively thin, non-bearing walls could be easily removed to allow for expansion. Ceilings and walls were insulated with thick layers of solid cork, set in asphalt and parged with cement plaster. Refrigeration was no longer provided by ice as it had been in the original buildings designed by Berger. Instead, freezing and cold storage areas were cooled by ammonia piped from a central compressor unit into ranks of direct expansion pipes or brine spray lofts on the upper level. Heavy carcasses

⁴⁴ The master client list maintained by Henschien, Everds and Crombie indicates that the Rath Packing Company was H. P. Henschien's thirteenth client overall, and the second in Iowa. Two years before receiving the Rath commission, Henschien had designed a manufacturing plant for the Larsen Ice Machine Company of Fort Madison. Henschien and his partners eventually completed substantial amounts of work for three other Iowa packing companies: John Morrell & Company, Ottumwa; Jacob E. Decker & Sons, Mason City; and Dubuque Packing Company, Dubuque. The Morrell plant is described in detail in a HAER study prepared in 1991 by Molly Myers Naumann and Mary Yeater Rathbun (HAER No. IA-34).

⁴⁵ The Rath Packing Company numbered its buildings in chronological order, according to the date of original construction. With few exceptions, buildings were not assigned new numbers when major additions or alterations were made. The description of Building 9 is based on original blueprints. See Henschien & McLaren, Project 1, WCDB.

could be transferred between floors by means of an electric elevator and a system of overhead rails.

The new building also differed from its predecessors on the outside. Whereas the earlier buildings had been workaday structures with few architectural aspirations, the new building was a classically inspired monument. Its exterior walls were made entirely of a handsome, variegated, red-brown face brick, and were divided into three distinct horizontal sections. The lower portion of the building had a raised foundation with horizontal rustication and a slightly projecting brick water table. Resting on this base was a broad expanse of wall that had been divided into shallow bays by an array of pilasters crowned with cast stone, Prairie Style capitals. Atop the pilasters was an abstract entablature with brick corbelling and a cast stone belt course and coping. At the northeast corner of the structure, a high, square elevator tower engaged the main mass and rose above it, displaying its winged parapets to the four winds.

In this, his first project for the Rath Packing Company, H. P. Henschien established an important paradigm for the future. During the next fifty years, the engineering and architectural features found in Building 9 would regularly reappear in the Rath complex as Henschien and his successors completed more than 60 major projects there. As both the company and its complex grew, this consistency in materials and detailing helped impart a sense of coherence to an increasingly diverse and complicated enterprise.

A MODEL FOR THE INDUSTRY

Production Facilities

H. P. Henschien undertook his second project at the Rath plant during the waning months of 1918, when the company commissioned him to renovate and expand William Berger's original hog killing building. Henschien planned a number of modest alterations intended to improve the efficiency and increase the capacity of the killing floor. Dressing operations were moved into a new reinforced concrete and brick cutting room that was built over the old engine house. The old steam-powered, belt-driven machinery was removed from the killing room to make way for a new hog hoist, an automatic scraping machine and an overhead chain conveyor--all of which were powered by electricity.⁴⁶ Within four years, however, the company had outgrown this remodelled facility.

In 1923 Henschien was hired to design an entirely new hog killing building (Building 40). When it was finished a year later, the 65 x 82-foot structure occupied more than three times as much ground space as the original slaughterhouse. From the outside, the unadorned, flat-roofed, four-story brick building bore a strong resemblance to its Berger-designed predecessor. Its structural system, interior finishes, and equipment, however, were pure manifestations of Henschien's principles of packinghouse design. The new building was supported by a fire-resistant, concrete-clad, steel skeleton frame. Its reinforced concrete floors were well-drained and paved with brick, while the rough brick surfaces of many of its interior walls had been coated with a smooth layer of plaster.

⁴⁶ The changes are shown on original blueprints owned by the Waterloo Community Development Board. See Henschien & McLaren, Project 2, WCDB.

The killing floor occupied the entire upper level of the building. It was equipped with two hog hoists, a huge concrete scalding tub, and a full range of electrically powered conveying and processing equipment. Visitors could observe the killing and dressing operations from an upper level gallery. Rooms on the building's lower levels contained equipment for processing by-products.⁴⁷

According to historian H. H. McCarty, these improvements enabled the company to triple its production between 1920 and 1924, by which time

Rath could claim without question a larger pork output than any other single Iowa plant. In the meantime distribution had been perfected, a fleet of company owned refrigerator cars placed on the railroads, branch distributing houses established, and fleets of meat trucks put on the highways; Rath had become a national institution.⁴⁸

Warehousing and Shipping

Between 1922 and 1940, the west end of the Rath complex was under construction almost continually as the company adapted its warehousing and shipping facilities to meet the demands of the national marketplace. During this time, H. Peter Henschien was commissioned to design a refrigerated loading dock and eight cold storage warehouses for the Waterloo plant. Although the warehouses varied considerably in size and footprint, Henschien gave each of them essentially the same features of construction and detailing that he had first employed in Building 9. The new structures were supported by steel and

⁴⁷ The description of Building 40 is based on original ink-on-linen drawings owned by the Waterloo Community Development Board. See Henschien & McLaren, Project 5, WCDB. Building 40 was substantially altered during the early 1960s, when Rath completed yet another extensive modernization of its hog killing operations.

⁴⁸ McCarty, Meat Packing in Iowa, 42.

concrete skeleton frames. Their exterior walls were divided into three parts and embellished with Prairie School ornamentation. And their cavernous cold storage rooms were insulated with cork, partitioned with tile, and paved with brick. By the late 1930s, the 1917 prototype was almost entirely hidden behind the new additions.⁴⁹

Manufacturing

America's large meat packing companies were originally dealers in bulk products. Packers shipped halved or quartered carcasses directly to local meat retailers who "broke the bulk and did the packaging if any were done."⁵⁰ But during the 1920s meat marketing began to change as supermarkets, chain stores, and a wide range of new packaging materials helped to create "a definite trend toward self-service retailing which put a premium on foods which could sell themselves."

The Rath Packing Company moved aggressively to take advantage of this trend. In 1929, the company began to erect a new, Henschien-designed manufacturing building on an irregularly shaped tract of land at the corner of Sycamore and Division Streets (Building 88). Measuring roughly 140 x 160 feet, and rising six stories into the air, this immense reinforced concrete and brick structure contained facilities for producing, packaging and storing a full line of brand-name specialties, ranging from sausage and bacon to packaged lard and

⁴⁹ Warehouse projects completed during this period include Building 26 (1922); Building 45 (1925); Building 76 (1928); Building 113 (1934); Building 115 (1925); Building 153 (1940); and Building 117 (this building was originally built in 1929 as a two-story beef killing house. It was expanded and renumbered in 1932). The refrigerated loading dock (Building 57) dates from 1926. All of these buildings were designed by H. Peter Henschien.

⁵⁰ "From Art to Science," National Provisioner 126 (26 January 1952): 272.

vacuum-canned hams.⁵¹

By the time the manufacturing building was finished in 1930, Wall Street had been ravaged by "Black Monday," and the nation as a whole was trying to deal with the deepening economic depression. The Rath Packing Company, however, found itself in an unusually good position to meet the crisis. Rath's 1930 annual report boasted that the company's financial condition was "the best in its history."⁵² Despite a steady decline in the prices of its products the following year, the company still showed a net profit of more than \$400,000, and president J. W. Rath was able to report that the company had "no funded debt and [did] not owe for any borrowed money."⁵³ With its balance sheet showing no signs of red ink, Rath was able to maintain its ambitious program of expansion for the remainder of the decade.

During the Depression, the company devoted a considerable amount of attention to upgrading and modernizing its processing facilities. In 1931, for example, Rath erected a structurally interesting two-story building to house its hog dressing operations (Building 92).⁵⁴ The new 60 x 132-foot, steel-framed, brick structure was located between the hog

⁵¹ "Rath Packing Company Puts Up \$500,000 New Buildings; Sales \$34,000,000 During '29," Waterloo Courier, 31 December 1929.

⁵² Annual Statement of the Rath Packing Company, 1930. Annual statements and annual reports for the Rath Packing Company from 1934-65 are included in the Rath collection at Iowa State University. See RPC-ISU, Reports, Symbol R, Box 2, File 2. Annual reports for 1929-1982 are also included in the Rath collection at the Grout Museum. See: GMA, Box 5.

⁵³ Rath Annual Statement, 1931.

⁵⁴ The description of Building 92 is derived from field inspections by the author during the fall of 1992, and from an examination of the original blueprints. See H. P. Henschien, Architect, Project 15, WCDB.

killing building (Building 40) and the old cutting room above the engine house (Building 2). Its first floor was elevated thirty feet above the ground, resting atop a steel plate-girder bridge that spanned the Illinois Central railroad tracks. The framing for the rooftop monitors above the second level was carried on a series of steel, three-panel Warren trusses. The clear span afforded by these trusses provided ample space for the new dressing equipment on the floor below.

In February 1937 the company announced plans to construct a 112-foot square, five-story, reinforced concrete and brick hog cutting and chilling building (Building 129), noting that "with the completion of this program, all of the original buildings will have been replaced with fireproof constructed buildings of strictly modern type."⁵⁵ When the new building was finished a year later, its highly-mechanized, air-conditioned cutting room was widely regarded as one of the wonders of the meat packing world. Operations took place on two levels, aided by an assortment of conveyor tables, power saws and chutes. Carcasses were taken from the coolers to a balcony, where hams and shoulders were cut off and dropped through chutes to the main level for further processing. The National Provisioner marvelled at the new facility, noting that it was "the first large-sized cutting room [with] equipment entirely of stainless steel," and that with an ability to process more than 1000 carcasses per hour, its capacity was "greater than any [cutting room] heretofore constructed." The magazine also reported that packers who had visited the installation had unanimously

⁵⁵ "Addition to Rath Plant is Planned," Waterloo Courier, 15 February 1937.

declared the Rath cutting room to be "one of the finest and most modern in the country."⁵⁶

By-Products

Not everything produced by the Rath Packing Company ended up in a frying pan. The disassembly line yielded a host of non-meat products, including blood, fat, hides, hair and bones. During the early years of the industry, many packing companies had simply discarded these materials as waste. But packers quickly learned that they could maximize profits by making efficient use of these abundant by-products. Hides could be turned into leather. Blood could be dried and used as fertilizer. Bones, hooves and horns could be ground into bone meal, or boiled to make gelatine or glue. Hog hair could be washed, dried and baled for use in upholstery or insulation. Intestines could be cleaned and used as sausage casings. Glands could be sold to pharmaceutical companies for use in insulin and other medical products. Edible fats could be refined into lard or used to make oleomargarine. And inedible fats could be saved to make an assortment of products ranging from soap to explosives. Chicago journalist Peter Finley Dunne, alias "Mr. Dooley," exaggerated only slightly when he wrote:

a cow goes lowin'softly into Armour's and comes out glue, gelatine, fertylizer, celoolid, joolry, sofy cushions, hair restorer, washin' sody, soap, lithrachoor, and bed springs, so quick that while aft she's still cow, for'ard she may be anything fr'm buttons to pannyma hats.⁵⁷

As Rath's processing capacity grew to more than a million animals a year, H. P.

⁵⁶ "Pork Cutting Efficiency," National Provisioner 99 (23 July 1938): 8.

⁵⁷ Peter Finley Dunne, quoted in Mayer and Wade, Chicago: Growth of a Metropolis, 52.

Henschien was hired to design four new buildings that would help the company derive maximum profit from each creature by using "everything but the squeal."

A four-story, steel-framed, brick tank house for inedible materials (Building 89) was erected adjacent to the hog killing building in 1930. A 60 x 60-foot, five-story, steel, concrete and brick lard refinery with a tile lining (Building 93) was completed in 1933, and a five-story, 56 x 79-foot lard tank house (Building 94) was added to the complex the same year.⁵⁸ In the spring of 1940, the company built a one-story, 47 x 164-foot, reinforced concrete grease interceptor (Building 148) on the riverbank near the center of the complex. Serving essentially as a sewage pre-treatment plant, this structure contained four ten-foot deep, 20 x 72-foot concrete basins equipped with aerators and mechanical skimmers that were designed to recover virtually every ounce of grease from the plant's wastewater. By the end of the year, three additional floors had been erected above the interceptor room to house grease cooking tanks, tankwater vats, and evaporators. This addition also contained equipment for washing, drying and baling the piles of hog hair that arrived on a conveyor from Building 40.⁵⁹

Despite the mundane and often unpleasant activities that took place inside the by-product buildings, Henschien again lavished considerable attention to the design of their public faces, reiterating in brick and cast stone the same monumental motifs that he first

⁵⁸ "Lard Tank House, Addition to Beef House Are Items; Year's Sales Show Increase," Waterloo Courier, 31 December 1933.

⁵⁹ "Rath is Building Unique Interceptor for Grease," National Provisioner 102 (20 April 1940): 14. Also: "New Packing Building to Cost \$60,000," Waterloo Courier, 22 November 1940.

established in 1916.⁶⁰

Infrastructure

Steam, electricity and refrigeration for all the Rath Packing Company buildings were generated in a boiler house and engine room located near the center of the complex. The boiler room (Building 27) was erected in 1922 to supplant the combined engine/boiler house (Building 2) that had been part of the 1891 complex. Building 27 was originally a four-story, steel-framed brick building measuring approximately 56 x 58 feet. It was equipped with one coal-fired, 300-horsepower Keeler boiler and two 500-horsepower boilers built by J. F. Davis and Sons of Chicago. Coal was elevated to a series of overhead bunkers, then distributed by gravity to automatic stokers that fed the boilers. Building 27 was expanded many times to keep pace with the company's ever-increasing need for power. Additional boilers were installed in 1928, 1935, 1939, 1944 and 1956. A 625 kilowatt steam turbine generator was installed in 1934, a 1500 kilowatt generator was installed in 1939, and a 3000 kilowatt unit was added between 1944 and 1956. Building 27's twin smokestacks, emblazoned with the Rath name, towered over the complex and were a Waterloo landmark for many years.⁶¹

The huge ammonia compressors that supplied refrigerant for the company's cold

⁶⁰ The inedible tankhouse (Building 89) was an exception. This building was tucked out of public view in the central rail corridor, between the hog and beef killing buildings (Buildings 40 and 117). Its exterior was unadorned and strictly utilitarian in design, corresponding closely in appearance to Building 40.

⁶¹ Descriptions of Building 27 are based on original drawings and blueprints owned by the Waterloo Community Development Board. For information on the original configuration, see Henschien & McLaren, Project 5, WCDB. Several of the later additions to Building 27 were designed by Helmick & Lutz, a Minneapolis engineering firm.

storage facilities were housed in Building 2. Originally built as a two-story lean-to adjacent to the first hog killing building, this structure had contained the entire power plant for Rath's 1891 complex. The building was expanded in 1918, 1931 and 1939, eventually rising to four stories in height. When the building was finished, its canted entrance bay was flanked by ranks of tall, cylindrical ammonia condensers.

The Hog Hotel

Power was not the only thing required to keep the Rath plant running smoothly. As in all manufacturing facilities, nothing was more important to the operation of the Rath Packing Company than a steady supply of raw materials. In 1938, Rath expanded its livestock holding areas to ensure that the company would have enough hogs on hand at all times to feed the production line for at least two days. Lacking sufficient space to expand horizontally, the company built vertically--erecting a four-story "hog hotel" (Building 138) in the southeast corner of the complex. The 62 x 242-foot structure was made entirely of reinforced concrete, with half walls on each level. Wooden louvers above the half walls could be adjusted to control temperature and ventilation in the enclosed pens. The company described the building's other accommodations in a 1941 promotional booklet:

Easy ramps lead from one floor to another, there is ample space, and in addition, this is a hotel with the equivalent of a 'bath in every room.' For on hot days, when Iowa is sweltering in a heat wave, grunting guests in Hog Hotel get a shower from overhead sprinklers.⁶²

⁶² Geoffrey Parsons, Jr. and Robert M. Yoder, Waterloo Packer: The Story of the Rath Packing Company (Waterloo: The Company, 1941). For additional information on Rath's livestock holding facilities, see "New Livestock Handling Methods," National Provisioner 100 (6 May 1939): 13-14; and: "Livestock Yards Can Go Up

The booklet was careful to point out, however, that the hog hotel's seemingly lavish appointments were not merely the product of corporate soft-heartedness:

As all stockmen know, an excited . . . or . . . tired hog can't be turned into the best quality meat. Excitement or fatigue raises the body temperature, prevents a 'good bleed' when the hog is stuck, hampers both the chilling and the curing. [The] purpose of . . . the 'hog hotel' is exactly the same as the purpose of having sharp knives on the cutting line--to get the best out of good meat.

Ancillary Activities

Rath also provided some important amenities for its human population. In 1925, plant engineer J. S. Bartley designed a new company administration building (Building 48). Erected on the north side of Sycamore Street, the three-story brick structure contained offices for Rath executives and support staff, conference rooms, and a print shop. With its attenuated, buttresslike pilasters, buttressed parapets, and Tudor style entrance bay, this Gothic Revival-inspired building stood out as the only major structure in the Rath complex that was not designed by H. P. Henschien.⁶³

Henschien, however, did apply his familiar ornamental scheme to the four-story, reinforced concrete and brick Employees' Building (Building 145) that the company erected on the south side of Sycamore Street in 1939. Measuring 84 x 145 feet, this building

Instead of Spreading Out," National Provisioner 111 (5 August 1944): 9-10. The "stock hotel" was apparently a successful solution to the problem of holding livestock prior to slaughter. In 1939, Rath built a similar facility for sheep (Building 142) adjacent to the Cedar River, and the original hog hotel was expanded several times. All of the company's livestock holding facilities were demolished during the summer of 1991.

⁶³ Henschien did design two additions for the administration building. In 1940, a wing containing a cafeteria, new executive offices, and a board room was added to the east end. In 1950, a second wing was built on the west end, linking the original building to a former neighborhood grocery store. Henschien duplicated Bartley's Gothic detailing on the additions.

contained office space for mid-level managers and drafting studios for the plant engineers. It also provided an assortment of facilities for plant employees, including locker and shower rooms, a cafeteria and lunchroom, and a rooftop recreation deck. A bridge from the third level led directly to the production area. Edward Swem discussed the Employees' Building in a 1940 National Provisioner article:

While employees' quarters do not turn out product or earn a profit, they are a necessary part of a modern packing plant. . . . A properly designed employees' building can contribute a great deal to general plant efficiency by improving employer-employee relations, helping to maintain employee cleanliness, and eliminating the confusion often attendant upon changing shifts, dressing and undressing, cleaning up and going to and from work.⁶⁴

By the time Rath celebrated its fiftieth anniversary in August of 1941, the company complex included 150 buildings and structures on an area of nearly 40 acres. But there was still more to come.

BEEF

The Rath Packing Company's 1891 contract with the Waterloo Improvement Syndicate had stipulated that the company would operate a "regular pork packing establishment" on the donated site for at least five years.⁶⁵ But Rath apparently began to diversify its product line almost as soon as it went into business. By 1892, the company complex included a small beef killing building. Using this facility, Rath steadily increased

⁶⁴ Edward Swem, "Rath's Employe [sic] Activities Are Centered in New Building," National Provisioner 102 (1 June 1940): 14-15.

⁶⁵ Rath Packing Company Board of Directors' Minutes, 7 October 1891. GMA, Box 38.

its annual beef output from 500 cattle in 1892 to more than 1,000 in 1908. A county history written seven years later noted that although Rath was still primarily a pork packer, the company was "developing the beef packing industry," and that during the summer of 1914 "they [had] erected one of the most complete beef packing establishments in the state."⁶⁶

Rath bolstered its beef production capability again in 1929, when it completed a new combined beef killing and cooler building at the foot of Elm Street (Building 117). According to the Waterloo Courier, this 71 x 180-foot structure consisted of one story and a basement, and was built "of brick with white trimmings, similar in design and color to all the modern buildings constructed by the Rath Company in recent years." The paper went on to report that the new building "makes a fine appearance from the Eleventh Street bridge," and that it could process 300 cattle, 300 calves, and 300 sheep per day.⁶⁷

On October 11, 1941, the Courier announced that Rath had awarded the W. A. Klinger construction company of Sioux City a contract "for construction of two beef buildings adjoining the [1929] beef processing building."⁶⁸ The new facilities would include a four-story abbatoir and processing building (Building 149), and a three-story cooling and shipping house (Building 162), both of which would be made of "brick, steel and concrete to conform in outward appearance with other Rath buildings." The paper went on

⁶⁶ History of Black Hawk County, Iowa, and Its People (Chicago: S. J. Clarke Publishing Company, 1915), 27. The early beef house is depicted on an 1892 Sanborn Fire Insurance Company map at the Grout Museum Library. The company's beef output is described in an unattributed manuscript entitled "History of the Rath Packing Company," and dated April 21, 1925, also GML.

⁶⁷ "Lard Tank House, Addition to Beef House Are Items; Year's Sales Show Increase," Waterloo Courier, 31 December 1929.

⁶⁸ "\$800,000 Building Contract is Let by Rath Packing Co.," Waterloo Courier, 11 October 1941.

to explain that the expansion was necessary "because of a general increase in business and partly because of war orders." Rath hoped the new buildings would help bring the company's beef operations "into balance with the hog kill."⁶⁹ With an \$800,000 price tag, this undertaking would be the biggest building project in company history.

As part of the initial planning for its new facility, Rath sent a contingent of company officials to study an unusual hide removal method that was being employed in the beef house at the Armour and Company packing plant in Kansas City, Kansas.⁷⁰ By 1941, meat packers had succeeded in applying production line principles to many of the operations required to convert their organic raw materials into standardized products. But beef producers were still trying to find an efficient way to skin cattle carcasses without damaging either the hide or the meat.

Lacking a satisfactory mechanical solution for this problem, most packers simply continued to remove hides by hand. After slaughter, each carcass was dropped from an overhead conveyor rail onto a "skinning bed" on the floor. There a team of workers used knives to strip the hide, with each member of the team completing one step of the process. The workers had to wrestle the heavy carcass into position for each operation, then reattach it to a hoist that lifted it back to the overhead rail. This skinning method required back-breaking hand labor. It put the carcass in constant danger of contamination from contact

⁶⁹ Parsons, Waterloo Packer.

⁷⁰ Robert Bedard, former superintendent of the Rath beef kill. Telephone interview by John Lauber, 17 December 1992, Waterloo, IA.

with the floor. And it interrupted the smooth flow of work on the production line.⁷¹

In 1908, Armour had developed a skinning system that promised to solve all these problems. The National Provisioner described the system's features:

The main part of the system is a traveling bench or table made of malleable iron strips 30 inches wide and ten feet deep. Linked together they form a platform which is continually revolving, and which is washed at each end as it turns around the sprocket wheel by a mechanical spray, which thoroughly cleanses the entire apparatus. From the head rail, the carcass is lifted and laid on the moving table by a mechanical dropper. As it moves along, the feet are removed and dropped into convenient chutes. . . . After partial dressing, the carcass arrives at a point where the hindquarters are hoisted to a rail and attached to a chain moving evenly with the table. Here the hide can be removed from the hindquarters properly while the forequarters still remain on the table for the rumping and tail skinning. When this is accomplished the carcass leaves the table entirely for the rail and moves along in a perpendicular position . . . over a hydraulic table on which the men stand while the operation of removing the hide is completed, the entrails are removed and the carcass split and made ready for the cooler. . . .⁷²

According to the Provisioner, the Armour apparatus offered some important benefits:

Instead of walking around in blood and other debris of the killing floor, the butcher now operates . . . amid such clean and sanitary surroundings that it is said that the Armour butchers are to be attired in white uniforms, and that they can even wear white shoes if they like.

The magazine went on to predict that the Armour skinning system would "mark a new epoch

⁷¹ Inventors had been attempting to find a better way to remove the hides from cattle for decades. Siegfried Giedion (Mechanization, 236) described a mechanical skinning device that was patented in 1867:

Skinner . . . would be done through a system of levers and pulleys while the animals--cattle in this case--were moored to the floor by head and legs. The drawing of this invention . . . shows a half-skinned cow with its hide drawn back; the skin of the head, already loosened by the knife, lies in the foreground.

Giedion concluded, incorrectly, that "this machinery must have been unsuccessful, for even today [1948] skinning is done by hand." He then went on to generalize that "all machinery seems to be ruled out when it comes to skinning, the separation of the hide from the flesh."

⁷² "New Beef Dressing System," National Provisioner 39 (5 December 1908): 18-20, 22.

in packinghouse practice." Despite this glowing pronouncement, the moving-table concept never gained widespread acceptance in the industry. But after seeing the Armour system in action, Rath officials decided to install an updated version of the skinning table in their new Waterloo facility.⁷³

Construction of the beef house took nearly two years. Although the federal government had granted priority status to the project even before the onset of World War II, its progress was hindered by a persistent shortage of building materials. Finally, near the end of 1943, the building was ready.

The new abbatoir was a four-story, reinforced concrete and brick structure capped with five huge, north-facing, sawtooth monitors. The building was L-shaped in plan, and measured 114 feet wide and 190 feet long. Its reddish-brown brick walls exhibited the same rusticated base, pilastrade and entablature that characterized all the Henschien buildings. Nestled in the bays between the pilasters were banks of steel-framed factory windows, set beneath wide bands of glass block, and separated vertically by brick spandrels.⁷⁴

The inside of the building was divided into six levels -- four above grade and two below. Cattle, sheep and veal calves were all slaughtered and dressed in the huge, L-shaped

⁷³ Even Armour seems to have had some doubts about the value of the moving table system. The company had installed moving tables in both Kansas City and Chicago in 1908. But when Armour completed its new high-capacity beef house in Chicago in 1937, hides were once again removed on 22 old-style skinning beds. See F. A. Lindberg, "How Armour Handles 2,200 Beef Carcasses a Day," Food Industries 9 (February 1937): 66-8, 107. Consequently, when Rath completed its installation in 1943, the Provisioner reported that the moving table was "used in only one other plant in the United States." See: "Rath Speeds Cattle Skinning and Dressing with Moving Table," National Provisioner 110 (3 June 1944): 12-14, 29-30, 32.

⁷⁴ Descriptions of Building 149 are derived from field inspections conducted by the author in November and December of 1992, and from an examination of the original plans for the building. See Henschien, Everds and Crombie, Project 41, WCDB.

killing room that occupied the entire fourth floor. The twenty-five foot high ceiling above this area provided space for an extensive grid of steel I-beams that supported an overhead chain conveyor system. Visitors to the plant could observe the operations on the killing floor from a gallery above the grid. The interior walls were made of glazed tile with concrete coves at the base and splayed concrete sills beneath the windows to facilitate cleaning. The sloping concrete floors with cast-in curbs and gutters directed fluids toward the floor drains. A system of strategically placed concrete islands and high, steel-framed platforms with open deck grating provided non-slip working surfaces for plant employees. The natural illumination from the skylights was augmented by an array of incandescent lighting fixtures with painted steel reflectors.

The third level was divided into three distinct areas. A large room on the south end contained equipment for sorting and cleaning head, feet, viscera, and other materials that were delivered by chutes from the killing floor above. Material that was to be rendered was trucked into a "charging" room on the north end, where it could be loaded into tanks below. A small room near the interior angle on the west side contained equipment for processing material that had been condemned by government inspectors.

Equipment for cleaning and processing beef casings was housed in a room on the south end of the second level. A room on the north end contained the steam-heated rendering tanks and dry melters used to recover fat and grease from edible and inedible by-products. Solid residues from the rendering operations were processed on the first level. The cellar and subcellar provided storage areas for hides.

In January 1944, the company reported that "within the last several weeks, we have been able to put the new beef kill, with moving beds, into operation and are now using it exclusively."⁷⁵

ON THE KILLING FLOOR

Cattle destined for the new beef kill arrived at the east end of the Rath plant in rail cars or stock trucks. After the animals were unloaded and weighed, they were herded to open holding pens located between the hog and sheep hotels, where they were held for at least 18 hours in accordance with federal law. At the appointed hour, the cattle were sprayed with water to remove dirt and dung. Then they were guided into a narrow, covered, reinforced-concrete ramp to begin their ascent to the killing floor.

The ramp was designed to minimize injury to the animals. Low brick steps with wide treads were built into the inclined floor to keep the animals from slipping. Walls were free of sharp projections and were equipped with slatted sides for ventilation. At top of the ramp the cattle turned a corner and entered the stunning area located in a bridge between the hog hotel and Building 149. Then, one by one, the animals entered the narrow cubicles called "knocking pens."

The new abattoir's two knocking pens were arranged in tandem, with raised walkways on one side and counterbalanced wooden gates on the other. A step running the length of

⁷⁵ "New Beef Kill in Operation," Land O' Corn News, January 1944, 2. GMA, Box 2. Land O' Corn News was a newsletter published by the Rath Packing Company between 1941 and 1945, primarily for distribution to former Rath employees serving in the armed forces.

each pen caused the animal it contained to stand off balance, with one side higher than the other, so that the creature would fall out of the pen when the gate was raised after stunning. The "knocker" standing on the raised platform used a sledge hammer to stun each animal with a carefully directed blow to the head.⁷⁶ Siegfried Giedion witnessed this same process at another packing plant:

Once hit, the animals collapse like wooden blocks. . . . Then . . . workmen fasten the chain around the hind legs and hoist them to the rail, head downward. At the same time, the sticker thrusts a knife into the throat of the unconscious animal.⁷⁷

The chains holding the cattle were attached to trolleys riding on flat rails. As the animals left the sticking area, the fingers on a moving conveyor engaged the trolleys and slowly pushed the carcasses through the bleeding area and into Building 149. The next stage of the process was described in a 1944 National Provisioner article:

After bleeding, the heads are skinned out, removed and hung from hooks upon a conveyor. While moving very slowly on this conveyor, which doubles back and forth over a relatively small floor area, they are inspected, trimmed and allowed to drip and finally pass to an operator who uses an electric saw for dehorning, detaches the tongue and drops the tongue and head through separate chutes to the hot offal floor.⁷⁸

After the heads were removed, the conveyor carried the rest of the carcass to the

⁷⁶ For a job-by-job description of beef processing operations during the late 1930s and early 1940s, see the Committee on Recording of the American Meat Institute, Beef, Veal and Lamb Operations (Chicago: Institute of Meat Packing, University of Chicago, 1945); or United States Employment Service, Division of Standards and Research, Local Job Descriptions: Slaughtering and Meat Packing Industry, Volume 1 (St. Paul: Minnesota Works Progress Administration (Projects 5196 and 5201), 1937).

⁷⁷ Giedion, Mechanization, 245.

⁷⁸ "Rath Speeds Cattle Skinning and Dressing with Moving Table," National Provisioner 110 (3 June, 1944): 12-14, 39-30, 32.

north end of the skinning table. The carcass then moved down an inclined rail and came to rest on the top of the table, which was nearly seven feet off the ground. The Provisioner offered this description of the apparatus:

The Link Belt dressing table is made up of 30-inch pitch x ten-foot wide steel panels with malleable iron floor plates bolted to the top. The panels are mounted on two strands of heavy bar link type chain, 30-inch pitch with six-inch diameter bronze bushed rollers. The distance between the head and foot shafts is 150 feet, and the overall length of the table is 156 feet. . . . Along each side is a continuous walk 30 inches wide. . . . The speed of the table is variable from six to 16 feet per minute, and it requires about seven and one-half horsepower to drive it. Special equalizing gears are used to eliminate pulsing motion. . . . The drive . . . is synchronized with the chains that feed to it and take away from it and the variation of speed is accomplished through a Link-Belt variable speed transmission. . . . For washing the table continuously, a spray pipe has been provided at the discharge end below the center line of the sprocket.⁷⁹

Once the animal was on the table, the shackle was removed from its hind leg and the carcass was propped up on sharpened "pritch" sticks, which held it in position for the first stage of the skinning operations. The Provisioner also provided a detailed description of the skinning process:

The floorsmen who work on the moving dressing table remove the fore and hind feet. These are thrown into chutes located at the sides of the table. . . . The hide is then opened, the legs, flank, shoulders and shank skinned down, the breastbone is sawed, the udder (if any) removed, and the carcass is sided down [i.e., the hide is stripped from the side] as far as possible.

At this point . . . the hind legs are attached to trolleys hung on a rail which runs parallel with the table. The rail rises at an angle and as the carcass is carried along by the table, the hindquarters are raised into the half hoist position for rumping, . . . and removal of the tail. . . .

Still moving along on the table with the hindquarters supported from the rail, the carcass drops off the table and moves down an inclined rail to

⁷⁹ "Rath Speeds Cattle Skinning and Dressing with Moving Table," National Provisioner 110 (3 June 1944): 12-14, 29-30, 32. The Link Belt Company was a Chicago-based manufacturer of automatic conveying equipment.

normal carcass level, at which it is handled by the back skinner and fell puller. It moves on the chain to the hide dropper and the point where the hide is finally dropped, inspected and chuted down to the cellar.⁸⁰

After the animals were skinned, they were transported to the evisceration area in the center of the room. There, workers slit each carcass open and let the entrails drop into stainless steel trays mounted on a moving table. The table was designed to move at precisely the same speed as the overhead conveyor so that the carcass and its contents would remain together while they were examined by government inspectors. If the inspectors found evidence of disease, both portions of the animal were condemned. At the end of the viscera table was a large hopper with cable operated doors that directed the approved or condemned entrails to the appropriate processing areas on the third floor.

Next the animals moved into the splitting area, where workers used counterbalanced reciprocating saws to divide each carcass cleanly in half, cutting along the spine from the tail to the neck. From there, the fresh sides of beef moved past trimmers who removed the kidneys, sliced out bruised flesh and neaten up ragged cuts. After a final inspection, each carcass was washed with a high pressure spray, then tightly wrapped with a hot, damp muslin cloth. This "shrouding" operation improved the appearance of the beef by keeping the carcass from shrinking as it cooled. After shrouding, the beef was weighed, then sent through an automatic door and into a refrigerated corridor that led to the new coolers in Building 162.

In Building 149, the complex task of converting a cow into a carcass had been

⁸⁰ "Rath Speeds Cattle Skinning and Dressing with Moving Table," National Provisioner 110 (3 June 1944): 12-14, 29-30, 32.

subdivided into more than thirty simple steps, each of which could be successfully completed by unskilled labor after a few days of training. With a full crew at work on the killing floor, the new beef house was capable of processing 5,000 cattle per week. However, the work on the killing floor was done entirely by men, and with World War II raging, men were in short supply. In 1944, Rath noted in its annual report that "owing to a shortage of help, we have not been able to operate the new beef house to its full capacity, but we expect to increase production in that department when more men are available."⁸¹

Despite that optimistic prediction, Rath's labor problems did not end when World War II was over.

POSTWAR ADJUSTMENTS

The National Provisioner characterized 1946 as a year of "unease and uncertainty," for the packing industry, largely because the federal government was "vacillating between a policy of control and freedom in connection with prices and trade in meat and by-products."⁸² Rath's annual report for that year reflected this mood of uncertainty:

During the year, . . . the packing business underwent a series of extreme changes that were without parallel in the history of the business. The temporary release of [price] controls brought on a supply of livestock that was difficult to handle. Next followed a period in which controls were re-established and when livestock receipts were at an extreme minimum.

Your company has plans for an extensive building program--to not only improve its present facilities but furnish new quarters to manufacture new items. Unfortunately, due to the shortage of critical building materials and

⁸¹ Annual Statement of the Rath Packing Company, 1944.

⁸² "Meat Packing Grows Up," National Provisioner 126 (26 January 1952): 347.

labor shortages, little could be accomplished in this building program this past year.⁸³

Price ceilings and shortages, however, were not the only problems faced by packers after World War II. Packinghouse workers were fearful that they would bear the brunt of the economic upheaval that was bound to follow in the wake of the war. In January of 1946, union employees at several of the nation's largest packinghouses went out on strike. Although this strike was quelled after only ten days, it set the stage for what was to come.⁸⁴

Rath was not immune to labor unrest. There had been sporadic, but unsuccessful attempts to organize a union of Rath employees ever since World War I. This activity increased dramatically during the early 1930s, as management cut wages and working hours.⁸⁵ In June of 1933, the National Industrial Recovery Act opened the door to unionism by giving workers the right to bargain collectively with employers. Hoping to forestall further labor activity in Waterloo, Rath responded by forming a "company union." Members were allowed to elect eight representatives to a "Council of Plant Employees" that would have direct access to management. Not surprisingly, this group lacked power, and before the end of the year, a small group of Rath workers had joined the Amalgamated Meat Cutters and Butcher Workmen Union (AFL). Although this union attempted a strike in 1935, it never won widespread support from the rank and file. However, it apparently did

⁸³ Annual Statement of the Rath Packing Company, 1946.

⁸⁴ For an overview of postwar labor problems in the packing industry, see: "Meat Packing Grows Up," National Provisioner 126 (26 January 1952): 346-53. For information about union activity at the Rath Packing Company, see: Mary Beth Eldridge, "The Rath Packing Company Strike of 1948," 1990, TMs [photocopy], collection of the State Historical Society of Iowa, Iowa City, IA.

⁸⁵ Eldridge, "The Rath Strike," introduction.

capture the attention of company management, because by 1941 Rath employees were earning the best wages in the industry.⁸⁶

Meanwhile, a group sponsored by the Congress of Industrial Organizations (CIO) had been working secretly to organize the plant for nearly four years. Their efforts finally succeeded on November 18, 1942, when Rath workers voted overwhelmingly to form a union. Just under a year later, the Rath union was chartered by the CIO as Local 46 of the United Packinghouse Workers of America.

Local 46 maintained a good relationship with Rath management for the duration of World War II, and stayed out of the strike in 1946. But in the spring of 1948, the United Packinghouse Workers presented the large packing companies with a demand for a 29-cent-per-hour wage increase. After the packers countered with a nine-cent-per-hour offer, the union called a nationwide strike. According to the National Provisioner:

The strike began on March 16, and affected . . . all plants represented by the CIO. In its early stages, the strike curtailed meat production about 30 per cent, but the national companies continued to operate their AFL plants . . . Of the larger independent companies, only Rath and Morrell were seriously affected.⁸⁷

The strike in Waterloo was unusually bitter, coming to a climax on 19 May 1948, when a union member named William Farrell was shot to death by a strikebreaker. Outraged workers rioted, and the National Guard had to be called in to restore order. Just nine days after this event, Rath workers returned to work under the terms of their old

⁸⁶ Eldridge, "The Rath Strike," introduction.

⁸⁷ "Meat Packing Grows Up," National Provisioner 126 (26 January 1952): 352.

contract. The company had won the battle, but by keeping the Rath plant closed for 73 days, Local 46 had firmly established itself as a force to be reckoned with.

THE LARGEST PACKING HOUSE IN THE WORLD

Despite the postwar turmoil, Rath managed to complete twenty construction projects costing more than four million dollars between 1946 and 1950. During this period, livestock holding facilities were expanded. Large additions were built on several of the cold storage buildings. An array of fertilizer processing and storage buildings was erected across 18th Street to the east of the main complex. And a three-story smokehouse (Building 198) was erected atop a steel truss bridge that straddled the railroad tracks between Building 9 and Building 113. By 1950, the Waterloo plant was being touted as "the largest single unit packing house in the world."⁸⁸

After thirty years of unceasing expansion Rath had created a sprawling complex that stretched along Waterloo's riverfront for nearly half a mile. From a distance, the plant appeared to be a uniform reddish-brown monolith punctuated only by smokestacks and elevator towers. But a closer inspection revealed that the complex was really a patchwork of individual buildings linked together by a bewildering array of tunnels and bridges. Each building had originally been designed to fulfill a specific function. And each had initially

⁸⁸ "Waterloo Boasts Largest Single Unit Packing House," Waterloo Courier, 29 December, 1950. The company was careful to use the "single unit" qualifier. Rath supplied its entire national distribution network with the output from the Waterloo plant. Armour, Swift, and other large packers conducted slaughtering and processing operations in several locations around the country, and some of these facilities were larger than the Rath plant.

been tied into the existing fabric so that it would facilitate the orderly flow of materials through the plant. But as the complex continued to grow, it became harder and harder to make the pieces fit together.

By the mid-1950s, many large packers had begun to decentralize their slaughtering operations, building compact, one-story packing plants at strategic distribution points around the country. These streamlined plants helped packers to significantly reduce the costs of handling, warehousing and shipping their products.⁸⁹ Despite this trend Rath continued to conduct all of its operations in Waterloo. According to plant engineer Robert Batcher, this was a serious mistake:

J. W. Rath wanted to make a monument for himself, and he did it. But it was the wrong thing to do. It was like putting all your eggs in one basket--and it killed us, in my opinion.⁹⁰

Rath continued to add to the plant during the 1950s, but by the end of the decade it was clear that the scale and concentration of the Waterloo facilities had become a disadvantage. Nonetheless, the company would complete one more major expansion -- this time in a desperate attempt to keep pace with the competition.

DECLINE

Between 1960 and 1966, the Rath Packing Company invested nearly four million

⁸⁹ Henschien himself had apparently anticipated the move toward smaller, single-level packinghouses more than a decade earlier. According to his obituary, the architect had "submitted to the American Meat Institute [in 1940] a general design for a one-story meat packing plant in which products moved horizontally by conveyor." See "H. P. Henschien Dead; Famed as Architect," Chicago Tribune, 13 February 1959.

⁹⁰ Robert Batcher, former plant engineer for the Rath Packing Company. Telephone interview by John Lauber, 18 December 1992, Waterloo, IA.

dollars on improvements designed to expand and modernize the Waterloo plant. The largest project began in July of 1960, when the company once again updated its hog killing facilities.⁹¹ Killing operations were moved from Building 40 into a new two-and-one-half story addition above Buildings 168 and 177. A cantilevered hog run (Structure 147) was constructed between the hog hotel and the addition. An electric stunning system was installed to bring the plant into compliance with the newly-passed Humane Slaughter Act, and the killing room was fitted with state-of-the-art hog slaughtering and dressing equipment. The renovated facilities were intended to help the company remain profitable in an increasingly competitive marketplace. But when the highly-automated equipment was started up at the end of July, disgruntled union workers staged a work slowdown that eventually brought operations at the Waterloo plant to a complete halt.⁹² By the end of the year, the company's labor problems were exacerbated by declining consumer demand for pork products and by decreasing margins between livestock costs and selling prices. Consequently, Rath recorded a net loss of nearly two million dollars for fiscal year 1961.

Two years later, Rath started a more modest program to modernize its beef killing operations. The work was completed during the spring of 1965. But within a year, the company had decided to back away from the "volatile and narrow margin fresh meat business" using its resources "to support the . . . more profitable processed meat lines."⁹³

⁹¹ Rath Packing Company Annual Reports, 1960, 61, 66. This project was initiated after Henschien's death in February of 1959, and the buildings seem to reflect his absence. The additions to the hog kill exhibited none of the ornamental details that characterized Henschien's work at the Rath complex.

⁹² "Rath's to Close Down Production," Waterloo Courier, 25 July, 1961.

⁹³ "Rath Packing to Halt Its Beef Slaughtering Operations in October," Wall Street Journal, 28 July 1966.

In keeping with this policy, Rath announced on July 28, 1966, that it would shut down its beef slaughtering operations in October. It was a sign of things to come.

In 1966, Rath ended its seventy-fifth anniversary year with a net loss of more than eleven million dollars.⁹⁴ The situation did not improve significantly in the years that followed. Economist John Portz notes that "by 1978 the company could claim profits in only eight of the previous eighteen years."⁹⁵ That same year, Rath hired a team of consultants to study and evaluate its physical plant, management, marketing and labor practices. Their report, issued during the summer, identified key problems at the company, and outlined a number of steps to solve them. The report, however, concluded with a dire prediction:

In the longer term, the Rath-Waterloo plant cannot be renovated to produce meat at economically competitive levels. In general, its age, construction characteristics and general layout, and its maintenance and operating costs are all critical and will likely lead to a plant closure in three to five years at best.⁹⁶

A few years later, the Wall Street Journal offered another view of the company's predicament during this period:

In March 1979, bankruptcy looked inevitable at Rath. The company had lost \$22 million in five years. The average age of its labor force was 53, and many people had been with the company for more than 30 years, thus burdening Rath with expensive wage and benefit costs. The company couldn't afford to buy all of the hogs it needed to fill its customers' orders. Its four-story slaughtering plant . . . was obsolete compared with the newer, one-story facilities that move animals through in assembly line fashion.⁹⁷

⁹⁴ Rath Packing Company Annual Report, 1966.

⁹⁵ John Portz, The Politics of Plant Closings (Lawrence, KS: University Press of Kansas, 1990), 58.

⁹⁶ Quoted in Portz, Politics of Plant Closings, 61.

⁹⁷ "Gripes of Rath," Wall Street Journal, 2 December 1981.

In what the Journal characterized as a "last ditch effort" to keep the Rath Packing Company in business, members of Local 46 agreed in July of 1980 to take a portion of their weekly wages in the form of Rath stock -- a move that transferred ownership of the company to the workers by making them majority stockholders. When the fiscal year ended two months later, the company showed its first profit in six years -- "largely because of the wages and benefits its workers had relinquished."⁹⁸

Further reductions in wages and benefits failed to keep the company from losing money the following year, however, and many employees were beginning to feel that they had simply given up too much.⁹⁹ On November 1, 1983, after recording a seventeen million dollar loss for the year, the Rath Packing Company filed for reorganization under Chapter 11 of the United States bankruptcy laws. The company struggled along for another year and a half, but on January 8, 1985, the last truckload of Rath products left the Waterloo plant. Four months later the Rath "Blackhawk" trademark was sold to John Morrell & Company. On November 11, 1985, the equipment from the plant was put on the auction block.¹⁰⁰

⁹⁸ "Gripes," WSJ, 2 December 1981.

⁹⁹ Many Rath employees had simply been asked to give up their jobs. In 1956, the Rath's corporate population reached an all time high of 8,841 employees. A year later, the annual report boasted that "one out of three families in Waterloo receives income from the Rath Packing Company." But by 1981, the labor force had been reduced to 2,928 employees. By the end of 1984, only 650 people were still on the payroll. Sources: Rath Packing Company Annual Reports, 1956, 1957; Stevens, "The Rath Packing Company: Chronology."

¹⁰⁰ Information on the final days of the Rath Packing Company is included in Fred Kercheval, "Why Rath?" ca. 1985, TMs [photocopy], GMA, Box 1. For a description of the plant auction, see: Ed Adcock, "Rath Packs Them In as Auction Wraps Up," Waterloo Courier, 17 November 1985.

EPILOGUE

At the time of Rath's closing in 1985, the City of Waterloo took possession of the entire plant site, including approximately 90 buildings and structures. That same year, the plant was determined to be potentially eligible for listing on the National Register of Historic Places.¹⁰¹ In 1991, the city received a Special Purpose Grant from the United States Department of Housing and Urban Development to redevelop the site. The redevelopment plans called for the use of federal funds to demolish approximately 35 buildings and structures which formerly comprised the Rath plant's "working core," including all the slaughtering and many of the processing facilities. Since the demolition would have an adverse impact upon the historically significant cultural resources at the plant, the City of Waterloo agreed to document the Rath Packing Company complex according to standards established by the Historic American Engineering Record of the National Park Service. This study is intended to fulfill that obligation.¹⁰²

¹⁰¹ Barbara Beving Long, "Waterloo: Factory City of Iowa. Survey of Architecture and History," 1986, TMs [photocopy]. Collection of Waterloo Public Library, Waterloo, Iowa.

¹⁰² For an assessment of the impact of the redevelopment plans, see Rebecca Conard, "Rath Packing Company, Waterloo, Iowa: Historic Resource Evaluation Under 36 CFR 800," Prepared by PHR Associates, Lake View, IA, 1991. TMs [photocopy]. Owned by Waterloo Community Development Board, Waterloo, IA. For a discussion of mitigation measures, see "Memorandum of Agreement: Rath Packing Plant, Special Purpose Demolition Grant, Waterloo, Iowa," 1992, on file at the offices of the Waterloo Community Development Board, Waterloo, IA.

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